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An investigation of the free reading
of middle grade children.



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Thesis

AN INVESTIGATION OF THE FREE READING
OF MIDDLE GRADE CHILDREN

Submitted by

Donald Thomas Welch

(B.S. in Ed., Bridgewater State Teachers College, 1935)

In partial fulfillment of requirements for
the degree of Master of Education

1 9 4 7

First Reader : Dr. W. Linwood Chase, Prof. of Education
Second Reader : Dr. Helen A. Murphy, Asst. Prof. of Education
Third Reader : Dean Donald D. Durrell, Prof. of Education

Gift of D.T. Welch
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CHAPTER I

THE PROBLEM

Do children in grades four, five, and six, who do much free reading, (1) have a higher reading grade, (2) have a larger silent reading vocabulary, (3) have greater speed in silent reading, (4) have better comprehension in silent reading, than children who do little free reading ?

The value of free reading in the educational program has been the subject of many studies. Investigators have differed widely in their opinions as to its value. Experiments dealing with limited phases of the problem, have often seemed to arrive at different conclusions.

Some of the confusion concerning the problem has been indicated by McKee in his statement:

For years wide reading has been proposed as one way of learning to read and to gain new meanings or concepts. But there has been a considerable amount of loose thinking about the matter. Most certainly new meanings are not built merely by attempting to read a great deal of material. New concepts develop only under certain conditions. One of these conditions is the character of the material utilized by the individual. Only when a new meaning is surrounded by an ample supply of very familiar detail, needed by the reader to build the new meaning, does wide reading serve as a means of increasing real reading ability. 1

1 Paul McKee, "Certain Matters of Importance in the Teaching of Reading," The Elementary English Journal, 14: 115-118, April, 1937, p. 116.

CHAPTER I

THE PROBLEM

No children in grades four, five, and six, who do much free reading, (1) have a higher reading grade, (2) have a larger silent reading vocabulary, (3) have greater speed in silent reading, (4) have better comprehension in silent reading, than children who do little free reading?

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I Paul McKee, "Certain Matters of Importance in the Teaching of Reading," The Elementary English Journal, 14: 115-118, April, 1937, p. 115.

Buswell says:

The proposal is sometimes encountered that the reading ability of adults can be improved merely by inducing them to read in greater amount and that more books, magazines, and newspapers should be furnished to them for this purpose. Certainly nobody can quarrel with the proposal that reading materials be made more widely available and that they be made more attractive in form. Nevertheless, there is a fallacy in this proposal which is too significant to overlook. It has been shown repeatedly in various forms of psychological experiments that habits are seldom improved by mere repetition; rather that the bad habits are even more firmly fixed. There is certainly little wisdom in urging that individuals whose reading habits are as crude as those of elementary school children be asked to read more without attempting to improve their reading process.¹

Many studies have been carried on in an attempt to discover the values of free reading versus the values of class reading. This study is attempting to discover some of the values of free reading as a supplement to class reading.

The expression "free reading" as used by the writer, means all of the voluntary reading done by the student, in school or elsewhere. The reading may be done in supplementary reading books, library books, comic books, magazines, newspapers, or any other material which involves reading.

¹ Guy T. Buswell, How Adults Read. Supplementary Educational Monographs, No. 45. Chicago: University of Chicago, 1937. Pp. 142-143.

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I, Roy T. Buswell, For Adult Read. Supplementary
Educational Technology, No. 12, Chicago: University of
Chicago, 1937. Pp. 142-143.

CHAPTER II

REVIEW OF RESEARCH

The research dealing with free reading in the general field of reading is presented first in this chapter, followed by reports of studies carried on in limited phases of reading. Finally, summaries are given of results of studies in which free reading has been used in subjects other than reading.

¹
Dickerson sent questionnaires to teachers in most of the states throughout the country to get their opinions on the values of free reading. Replies were received from twenty-seven states and the District of Columbia. Ninety-two replies were received in all. Of the teachers who replied, nearly all who used free reading in any form, reported more reading done by students as well as gains in reading level.

Schooner writes:

The theory that in a free, extensive, or voluntary reading program pupils have a tendency to read voluminously but aimlessly gains no support from this study. Growth in literary taste and appreciation is stimulated through exposure to a wide variety of reading materials. ²

¹ Visa M. Dickerson, "Free Reading in the Teaching of English Literature," unpublished Master's Thesis, University of Southern California, Los Angeles, California, 1932. P.107.

² Ruth C. Schooner, "The Case for Voluminous Reading," The English Journal, 27:114-118, February, 1938.

The same author contends that, "Any individual who is surrounded by a plentiful supply of good reading matter suited to his ability and who uses it enough to establish a habit can develop into a reader." ¹

Goodykoontz states:

Independent reading in the classroom, in the library, or at home, affords opportunity for the cultivation of many reading attitudes, habits, and skills under exceptionally favorable circumstances. Such opportunities help to develop habits of rapid reading, to encourage independent recognition of words, to enlarge vocabulary, and to improve language usage. . . . One obligation of the school is to encourage independent reading for constructive purposes in every possible way, to include both time and place for such experiences in the program, and to provide acquaintances with appropriate materials for fulfilling these purposes. ²

For children above grade three, Thorndike suggests:

A very simple, reasonable, and practical means of providing for the improvement of reading in the upper level of intelligence and interest is to have an abundance of suitable books and magazines in the school, permit such children to read as they choose during the school time allotted to reading, and arrange that they always have suitable books available at home. Such library service will help them and harm nobody. ³

In explaining why children in grades four through nine need more reading than is provided in a series of readers, Thorndike indicates that any series of readers for grades four through eight would contain about 500,000 words.

¹ Ibid., p. 115.

² Bess Goodykoontz, "The Place of Reading in the Curriculum," Thirty-Sixth Yearbook of the National Society for the Study of Education, Part I, 1937. Pp. 59-60.

³ Edward L. Thorndike, "Improving the Ability to Read," Teachers College Record, 36:1-19, October, 1934, pp. 4,5.

Pupils in grades four through nine should read at least 5,000,000 words. "In grades four, five, and six a child should read (in school or out) at least twenty-five times as much as there is in the average fourth, fifth, and sixth Readers."¹

Betts writes:

As soon as possible, the children should be guided into independent reading. . . the average child is ready to read on his own by the time he has attained first-reader-"level" reading ability. Growth in reading is speeded up by independent reading and, therefore, merits very careful consideration. Through independent reading, the child broadens his interest and experience, acquires a feeling of self-confidence and self-respect in reading situations, and applies learnings derived from directed reading activities. When a child first engages successfully in independent reading, he cuts the apron strings from the teacher. There is no greater thrill than being "on your own." . . . Free reading leads to the development of permanent reading interests.²

In a study of library reading of primary grade pupils, Boney reached the conclusion that, "The library reading program which stimulates the child to read of his own volition in and outside the classroom should be used as a means of attaining broad reading objectives."³

In the Twenty-Fourth Yearbook of the National Society for the Study of Education, the reading program is divided

¹ Ibid., p. 241.

² Emmett a Betts, Foundations of Reading Instruction. New York: American Book Company, 1946. Pp. 519-520.

³ DeWitt C. Boney, A Study of Library Reading in the Primary Grades, Teachers College Contributions to Education, No. 578. New York: Teachers College, Columbia University, 1933. Pp. 32-33.

5

Pupils in grades four through nine should read at least 5,000,000 words. "In grades four, five, and six a child should read (in school or out) at least twenty-five times as much as there is in the average fourth, fifth, and sixth Readers."

Better written:

As soon as possible, the children should be guided into independent reading. . . . The average child is ready to read on his own by the time he has attained first-reading ability. Growth in reading is accelerated by independent reading and, therefore, merits very careful consideration. Through independent reading the child develops his interest and experience, acquires a feeling of self-confidence and self-respect in reading situations, and applies learning derived from directed reading activities. When a child first engages successful independent reading, he gets the great things from the teacher. There is no greater thrill than being "on your own." . . . True reading leads to the development of permanent reading interests. 2

In a study of literary reading of primary grade pupils, Boney reached the conclusion that, "The literary reading program which stimulates the child to read of his own volition in and outside the classroom should be used as a means of attaining broad reading objectives." 3

In the Twenty-fourth Yearbook of the National Society for the Study of Education, the reading program is divided

1. Primary, p. 241.

2. Harriet A. Boney, Foundations of Reading Instruction. New York: American Book Company, 1932. pp. 211-220.

3. Harriet A. Boney, A Study of Literary Reading in the Primary Grades. Teachers College Contributions to Education, No. 173. New York: Teachers College, Columbia University, 1932. pp. 32-33.

into five important periods. Number four is listed as:

The period of wide reading to extend and to enrich experience and to cultivate important reading attitudes, habits, and tastes. The essential purposes of this period are to extend the experiences of pupils, to quicken their thinking powers, to cultivate a wide variety of interests and tastes in reading, to develop speed in silent reading, and to lay the foundation for study habits. Instruction should also be provided to improve oral reading after habits of silent reading have been well established. This period usually includes the fourth, fifth, and sixth grades. 1

The report emphasizes the need of providing independent reading at home and school:

Such reading is indispensable in increasing the experiences of boys and girls, in stimulating keen interest in reading, and in training them in the wholesome use of leisure time. Provision for a large amount of independent reading in the second and third grades is justified inasmuch as investigations show that most pupils are prepared for it by the beginning of the second grade or shortly after that time and that the pupils who read widely advance most rapidly. 2

3

Zirbes found that extensive reading with short comprehension exercises gave better results than class instruction, in the second grade, for children who were reading more than sixty words per minute. For children reading below this rate, class instruction was superior.

1 "Report of the National Committee on Reading," Twenty-Fourth Yearbook of the National Society for the Study of Education, 1925, p. 25.

2 Ibid., p. 53.

3 Laura Zirbes, Practice Exercises and Checks on Silent Reading in the Primary Grades. New York: Bureau of Publications, Teachers College, Columbia University, 1925.

Questionnaires were given to 7,879 school children from kindergarten through the eighth grade to find the favorite books of these children. As a result of this study, Witty comments:

In the balanced reading program of the modern school, it is recognized that the child's choice of reading materials is an important consideration. . . . A balanced reading program, by offering wide reading experience from a variety of carefully chosen materials, will care for individual differences. ¹

Witty has used supplementary reading in his work with the Army Special Service Units. These units are operated to teach illiterates or non-English speaking men. Witty reports on one phase of this work:

The use of supplementary materials has proved an important means of fostering rapid growth in reading ability. A weekly newspaper and a monthly magazine are sent to every man in Special Service Units. ²

Gray recently wrote:

Paralleling the establishment of basic reading attitudes and habits and of increased competence in reading in the content subjects, pupils should acquire keen interest in independent reading. Responsibility for the stimulation of such interest is shared by various agencies in the school. The teacher of reading should take every occasion possible to launch pupils on interesting adventures in free reading. Teachers of the content fields should attempt daily to arouse

¹ Paul Witty, Ann Coomer, and Dilla McBean, "Children's Choices of Favorite Books; A Study Conducted in Ten Elementary Schools," The Journal of Educational Psychology, 37:226-78, May, 1946, p. 276.

² Paul Witty, The Appraisal of Current Practices in Reading, Supplementary Educational Monographs, No. 61, Chicago: University of Chicago Press, 1945, p. 14.

interests and curiosities that can be satisfied through wide reading of intriguing books in their respective fields. ¹

Byrnside carried on an experiment in grades 5, 6, and 7 for a period of eight months. The control group was taught in the traditional manner, with each member of the class using the same reading book, and the class taught as a group. The experimental group had no reading text, but used many reading and library books. There were 254 students in the experiment. Mr. Byrnside reached the conclusion that, "It appears that a program of instruction in reading in grades five, six, and seven in which free reading is emphasized and children are relieved of certain of the conventional procedures in reading will yield better results than obtained from children who follow a conventional program of reading."²

In recent investigations, experiments have been carried on in certain specific aspects of the reading problem to discover the values of free reading. Simpson, in an experiment with a small group of college freshmen, tried to discover what influence free reading had on the control of eye movements. He found that:

The most obvious inference to be made from the limited data of this study is that students who read a great deal out of class for leisure or for general

¹ William S. Gray, The Appraisal of Current Practices in Reading, Supplementary Educational Monographs, No. 61. Chicago: University of Chicago Press, 1945, p. 22.

² David S. Byrnside, "A Comparative Study of Reading Attainment in Free Reading and Formal Reading Programs," unpublished Master's Thesis, Louisiana State University, 1938, p. 69.

information did not have better control of their eye movements when tested on a simple paragraph of ordinary reading matter than the students who read little or not at all outside of their regularly prescribed assignments.¹

In an experiment with four third grade classes, Cason found that, though she used the most modern devices known for increasing the speed of reading, the classes gained no more than a comparable group that did not have these devices, but spent a like amount of time in free library reading.

There were no important differences between the groups having the opportunity for special practice in reading phrases and for eye-movement training provided especially by the Metron-O-Scope and the equated groups in the same school spending an equal amount of time in free library reading. This was true of the standardized reading test which measured speed, level of comprehension, and accuracy on the speed test, of the special tests of ability to read phrases, of the measurement of eye-movements, and of the test on the Metron-O-Scope. In the groups studied, and under the conditions of the experiment, the measurements made did not show that any clear-cut gains were produced in the reading process by the reading programs stressing the mechanics of reading that were not secured by free library reading. . .

When group differences were considered, the mechanical approach was not effective in either of the schools co-operating in this experiment, in the sense that comparable results were obtained with equated groups spending an equal amount of time in free library reading, which is a far simpler method.²

¹ Ray G. Simpson, "Does the Amount of Free Reading Influence the Student's Control of His Eye Movements in Reading Ordinary Printed Matter?" Journal of Educational Psychology, 34:313-315, May, 1943, p.315.

² Eloise Cason, Mechanical Methods for Increasing the Speed of Reading, Teachers College Contributions to Education, No. 878. New York: Teachers College, Columbia University, 1943, p. 67.

information did not have better control of their eye movements than the students who read little or not at all outside of their regularly prescribed assignments.

In an experiment with four third grade classes, Gosson found that, though she used the most modern devices known for increasing the speed of reading, the classes gained no more than a comparable group that did not have these devices, but spent a like amount of time in free library reading.

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1. Ray V. Blanton, "Does the Amount of Free Reading Influence the Student's Control of His Eye Movements in Reading Ordinary Printed Matter?" Journal of Educational Psychology, 35:318-319, May, 1943, p. 318.

2. Elaine Gosson, "Mechanical Methods for Increasing the Speed of Reading," Teachers College Contributions to Education, No. 878, New York: Teachers College, Columbia University, 1943, p. 87.

The values of free reading as it relates to the acquisition of vocabulary have been reported by Gray and Holmes.¹ They carried on a series of five vocabulary studies in the Elementary School of the University of Chicago. The studies were made in the fourth grade, in history, to find whether a child will acquire word meanings more readily through wide reading or through direct teaching of meanings of unfamiliar words. One control group of twenty-one pupils was used and two experimental groups, one of twenty pupils and the other of eighteen pupils. The groups were equated on intelligence quotient, mental age, general vocabulary mastery, and specific vocabulary mastery (as measured by informal, teacher prepared tests). The pupils were tested in October, and again in December of the same year, on the specific vocabulary tests. The same teachers taught all pupils. The units were introduced in the same way, with mimeographed guide sheets for directed reading. The control group received help only when they asked for it. The experimental groups were given specific vocabulary help, such as: teaching new words with proper associations, teaching how to get meaning from context, and the correct use of new words.

The gain for the control group from October to December, as measured by the specific vocabulary tests was 8.9, a

¹ Will S. Gray, and Eleanor Holmes, The Development of Meaning Vocabularies in Reading, University of Chicago Monographs, Number 6. Chicago, Illinois:University of Chicago, 1938.

per cent gain of 13.6. One experimental group made a gain of 17.6, a per cent gain of 23.7, while the other experimental group made a gain of 25.2, a per cent gain of 42.6.

The per cent of gain made by those in the experimental groups was more than twice as much as that for the paired pupils of the control group. Pupils of all levels of vocabulary ability seemed to profit from vocabulary instruction and those with low achievement seemed to profit most.

The authors conclude that:

The facts presented in this chapter supply conclusive evidence that the use of the direct method of vocabulary development is accompanied by greater increase in reading efficiency than is true when the indirect method is used. . . . It promotes greater accuracy of word recognition in oral reading, more fluent and orderly habits of recognition in silent reading, more detailed and accurate comprehension of the meaning of what is read, a clearer grasp of relationships between the various elements of meaning, and a more orderly organization of the ideas secured through reading. These statements should not be interpreted to mean that the direct method of vocabulary development should be used to the exclusion of wide independent reading in acquiring and in enriching experience. Each procedure makes distinct contributions in the education of the child. The evidence demonstrates clearly, however, the necessity for direct teaching of the meaning, recognition, and use of "basal", or fundamentally important words needed in study. It follows that teachers should supplement wide reading with carefully planned instruction that promotes vocabulary development. ¹

Elivian devised tests to find if children recognized

¹ Will S. Gray and Eleanor Holmes, op. cit., p. 77.

words that they did not know, and if they were able to get meaning from context. She found that many children cannot do either. She says: "Merely assuring oneself that a child reads widely does not mean that he will gain significantly." ¹

In an experiment with college freshmen to find to what extent vocabulary is broadened by wide reading, Sachs found that most of the students gained little or no new vocabulary through reading alone. "We learn," he writes, "that these students possess an astonishing immunity from learning words in contexts- that the majority of them, in fact, make no effort at all to learn words from context." ² The same author continues:

The experiment described in this paper and the supporting opinions quoted do not imply, of course, that wide reading does not broaden one's vocabulary. But they do definitely show the limitations of the reading method of improving vocabulary. ³

Durrell and Sullivan report substantially the same findings:

The growth of word meaning vocabularies of children is approximately a thousand words a year. A large part of this growth comes from extensive reading and from the word meaning exercises in the classroom. Failure to make this growth is probably due to lack of habits of word perception or attention to meaning in context.

¹ Jeannette Elivian, "Word Perception and Word Meaning in Silent Reading, in the Intermediate Grades," unpublished Master's Thesis, School of Education, Boston University, 1938, p.4.

² H.J. Sachs, "The Reading Method of Acquiring Vocabulary," Journal of Educational Research, 36:357-364, February, 1943, p. 412.

³ Ibid., p. 464.

. . . even when the word is seen it is apparent that some children are unable to get meaning from context and need special instruction in the skill. 1

In independent voluntary reading the problem of vocabulary is best taken care of by seeing that the books recommended for the child are not beyond his vocabulary level. 2

Harajian carried on an experiment with tenth grade students to find what benefits were derived from free reading. In reporting her results she says:

There is not sufficient evidence as yet to state positively that the free reading program contributes to the increase in vocabulary and general information, but what little evidence exists points to that conclusion. 3

The free reading program with its plan of gradual individual guidance, has proved beyond a doubt its ability to improve taste and at the same time create appreciation and enjoyment of the reading material. 4

A study of the mental imagery of children reading silently was made by Clough. She found that those who do much free reading score higher in mental imagery than those who read little, and the more they read, the higher they score. 5

1 Donald D. Durrell and Helen B. Sullivan, "Vocabulary Instruction in the Intermediate Grades," The Elementary English Review, 15:138-145 and 185-198, April-May, 1938, Pp. 195-96.

2 Ibid., p. 198.

3 Eleanor Harajian, "The Contributions of a Free Reading Program to the Student's Taste in Reading, Vocabulary, and General Information," unpublished Master's Thesis, University of Southern California, Los Angeles, California, 1937, p.134.

4 Ibid., p. 135.

5 Vida S. Clough, "An Analysis of Mental Imagery in Children's Silent Reading," unpublished Master's Thesis, School of Education, Boston University, 1943, p. 76.

She makes the following suggestions: "If a child is to improve his imagery, he should read more books than he is reading, books which are suited to his level of ability, to his interests, and to his needs."¹ Free reading of library books can be guided with a better understanding of suggesting books for pupils who are low in imagery.²

Williams carried on an experiment in six ninth-grade classes in literature in an attempt to answer the question, "For achieving the aims of instruction in Literature, is the extensive reading of literature more effective than the intensive study of a few selections?"³ The test data showed no significant differences in the comprehension of literature attained by either group. However, the stenographic reports of class recitations seem to show certain gains made by the extensive-reading groups over the intensive-reading groups.

The stenographic reports indicate (1) that the CX pupils, those who were taught by the extensive reading method, discovered more material that held interest and meaning for them, (2) that the CX pupils had a greater store of ideas, (3) that the CX pupils had a greater intensity of interest, (4) that the CX pupils had a greater freedom in speaking and greater power for sustained expression, and (5) that the type of recitation held in the CX classes is more in keeping with the objectives of instruction in literature as stated in the writings of educational and literary leaders. 4

1 Vida S. Clough, op. cit., p. 98.

2 Ibid.

3 Ralph R. Williams, "Extensive Reading Versus Intensive Study of Literature," The School Review, 37:666-78, November, 1929, p. 666.

4 Ibid., pp.676-77.

Another experiment in teaching literature by the extensive method was carried on by Coryell¹ in eleventh-grade English classes. Three classes were taught by the extensive method; three classes, taught by the same teachers who taught the first three classes, were taught by the intensive method; and three other classes served as a check on the experimental classes. The parallel extensive and intensive groups were evenly matched. Teacher-prepared new type examinations in literature were used to test the pupils, as well as several standardized reading and literature tests. The extensive-reading group did as well as the intensive-study group on all of the tests given. Coryell comments on the results of her study:

Since the extensive-reading classes scored approximately the same as the intensive-study classes it seems that the extensive-study classes obtained from their year's work in literature as much training in appreciation of literature, comprehension of material read, and vocabulary, as did the intensive-study classes. They also received as good preparations for examinations. In addition, they had the opportunity to read and discuss six times as much literature.²

A free reading program was carried on by Heller³ in a three-year junior high school. There were no formal English classes from the time the students entered grade seven until

¹ Nancy G. Coryell, An Evaluation of Extensive and Intensive Teaching of Literature, Teachers College Contributions to Education, No. 275, New York: Teachers College, Columbia University, 1927.

² Ibid., p. 32.

³ Frieda M. Heller, "Free Reading in the Junior High School," Educational Research Bulletin, 19:217-22 and 243-44, April 10, 1940.

they left grade nine. Pupils were encouraged to read many books of wide and diversified interests. Card records were kept of all books read. There were no required book lists, no formal book reports, and no marks given for work done. From the evidence secured the author believes that, "The free reading program met to a considerable degree the needs, interests, and abilities of the members of this group. When choice was permitted and books were selected to meet individual interests and drives, reading became truly significant"¹

Moon experimented with free reading in two classes in European History:

A summary of the experiment shows that when two groups of pupils, approximately equal in ability, prepared their history lessons by different methods, the class which read extensively and collected information as an incidental part of the process was able to remember more facts and do better on tests than the class which spent most of its time in the intensive study of the facts which it was expected to remember. When the lessons of the two groups were prepared by the same method, each reading widely, the two groups did about equally well. ²

³ O'Brien carried on a remedial reading program in grades five and six from January, 1928, to June, 1928, using methods suggested in the Diagnostic Chart taken from the Twenty-Fourth Yearbook of the National Society for the Study of Education. The greatest gains were made by the slow-learning pupils with

¹ Frieda M. Heller, op. cit., p.243.

² George R. Moon, "An Experiment Made by a History Teacher," School Review, 35:208-216, March, 1927, p.215.

³ Ida O'Brien, "A Comparison of the Use of Intensive Training and of Wide Reading in the Improvement of Reading," Educational Method, 10:346-49, October, 1930.

intelligence quotients from 79 to 98, (Stanford-Binet).¹ In this group gains ranged from five months to two years in reading age. Beginning in September, 1928, and extending through May, 1929, an extensive reading program in the social studies was carried on. Remedial reading was not emphasized. Reading examinations showed that the greatest gains under the wide reading program were made by pupils with high intelligence quotients, with one exception. These gains ranged from one year and four months to one year and nine months. The reading test used was the Stanford Achievement Reading Examination.² As a result of this experiment, O'Brien is led to the following conclusions:

Give only the minimum of mechanical and remedial instruction to bright and normal children who are at or above grade level. Provide for such children wide reading programs in connection with other interests and activities. Do not depend upon interest and wide reading to increase the reading abilities of slow-learning children nor to overcome real reading difficulties of any children. Give slow children the maximum of instruction in the mechanics of reading and in remedial work. Give specific instruction for overcoming difficulties. Provide reading materials suited to the level of the pupils, both for reading instruction and for reading in connection with other interests and activities. ³

Good used college classes to find which was more successful in the social studies field- extensive or

¹ Lewis M. Terman and Maud A. Merrill, Stanford Revision of the Binet-Simon Scale for Measuring Intelligence. Boston: Houghton, Mifflin Company.

² New York: World Book Company.

³ O'Brien, op. cit., p. 349.

intensive reading. The results seem to indicate that the length and type of reading assignment should vary with the purpose. When reproduction of ideas is desired, intensive reading gives as good or better results than does extensive reading. The results of the experiments in problem solving and outlining show an advantage for extensive reading. The results also seemed to show that pupils in the lower intelligence groups will probably profit more from intensive reading assignments, while those in the more intelligent groups will probably receive more value from extensive reading assignments.

An experiment was carried on in high school science by Rice.¹ It covered a period of four years and involved 1708 pupils equated on intelligence quotients, previous achievement in science (determined by standard tests), grade in school and sex.

All groups received the same type of instruction that was in current practice in the schools involved. The experimental sections were required, in addition, to read articles of scientific interest in books, magazines, and periodicals. Tests, usually informal, were given before and after each unit of work.

¹ R.S. Rice, "Extensive Reading Versus Intensive Textbook Study as a Means of Acquiring Knowledge of Scientific Facts and Principles," The Journal of Experimental Education, 4:376-402, June, 1936.

The intensive reading groups read only about one-third as much as the extensive reading groups. In gains from pre-tests to final tests, the experimental pupils exceeded the control pupils in 59.8 per cent of the cases. They were exceeded by the control pupils in 33.5 per cent of the cases. The groups were equal in 6.7 per cent of the cases.

The author believes that:

Extensive reading of scientific materials is a significantly effective method of acquiring a knowledge of scientific facts and principles. Extensive reading pupils remember more scientific facts and principles than do intensive study pupils. Extensive reading pupils learn a number of additional scientific facts which are not learned by the intensive study pupils. ¹

²

Field used sixty-two classes of second, third, and fourth grade children in thirteen public schools to carry on her experiment in extensive reading. Initial tests were given in January, and final tests in May. Data used were grade placement, chronological age, intelligence quotients, and changes in reading scores between tests. The author carefully defines her use of terms:

Extensive individual reading here refers to reading done by pupils in their regular classroom reading periods, from material fitted to their reading ability and chosen by them individually, under the guidance of the teacher, from among many books. The reading is done

¹ R.S.Rice, op. cit., p. 400.

² Helen Field, Extensive Individual Reading Versus Class Reading, Teachers College Contributions to Education, No. 394. New York: Teachers College, Columbia University, 1930.

silently and the material read is usually discussed, in part or as a whole, with the teacher, the class, groups of pupils or individual pupils, as the case may be. A pupil reads at his own rate and goes to new material as soon as he finishes the old.

Class reading here refers to reading done by all pupils in a class (or by the group into which the pupils of a class are divided for teaching purposes) at the same time. Every pupil has a copy of the same book, which is chosen by the teacher. All read the same material, either silently or orally, during any class period. Children are assumed to progress through these books at the same rate.¹

The two methods of teaching reading are described by Field as, "About equally effective in improving general reading ability in second, third, and fourth grades in typical public schools."²

The two procedures appeared to be of nearly equal effectiveness in both high and low sections of the three grades. Both procedures are about equally effective with pupils of low, average, high, and very high intelligence. The author recommends that both procedures be used in grades two, three, and four, and that extensive individual reading³ be used more than class reading.

Summary. The data collected in this chapter indicate that there is great value in free reading for all pupils, but especially for the brighter students. It is necessary to teach directly the basic vocabulary to most children, and

¹ Helen Field, op. cit., p.3.

² Ibid., p. 32.

³ Ibid., p. 51.

it appears that it is necessary to teach certain skills, such as getting meaning from context. Durrell summarizes the problem:

Extensive independent reading by a child is valuable training for improvement of reading. It alone is not adequate, however, for children with severe learning difficulties; such children need guidance in overcoming faulty habits and establishing vocabulary mastery and other reading skills. But rapid learners and superior readers undoubtedly gain more from extensive individual reading than from instruction which is perhaps beneath their present attainments. . . . Probably with materials of appropriate difficulty and with proper motivation, gains through individual extensive reading would exceed those obtained from classroom instruction and uniform textbooks.

Individual reading is essential with any kind of class group instruction. The child must acquire habits of security and pleasure in independent reading.¹

¹ Donald D. Durrell, Improvement of Basic Reading Abilities. New York: World Book Company, 1940, pp. 75-76.

CHAPTER III

DESCRIPTION OF STUDY AND MATERIALS USED

Much has been written about the values of free reading in a reading program. In this study it is the writer's purpose to discover if those children who do read a great deal are better readers than those who read very little.

Steps were taken to prepare and administer a questionnaire to a large number of fourth, fifth, and sixth grade pupils to find out the amount of free reading done by them. In order to prepare a questionnaire that would produce the desired results and be easy to administer, several teachers in schools in various parts of the State of Massachusetts gave a preliminary form of the questionnaire to over seven hundred middle grade pupils. On the basis of these returns, and criticisms offered by the teachers who used them, a new questionnaire was prepared.

The questionnaire that was finally used in this study was composed of two parts, one to be filled in by the pupils, and the other, a set of directions for the teacher to read to the pupils. Copies of both parts of the questionnaire are included in this chapter.

Before putting the plan into operation, the writer met

with all of the eighteen teachers who were taking part in the study. The plan of the study was outlined and the use of the questionnaire was explained.

Before administering the questionnaire, each teacher indicated on a check list her estimate of the amount of free reading done by each child in her class, whether Much, Average, or Little.

All of the fourth, fifth, and sixth grade students in the towns of Bridgewater and Middleboro were included in the study. Complete data were secured on 549 pupils.

The questionnaires were all given within a period of two days so that the time element would be the same for all. Every questionnaire was checked to discover the amount of reading done by each pupil. They were then divided into three groups. Those in the highest 25% in amount of reading done were called MUCH readers. Those in the lowest 25% in amount of reading done were called LITTLE readers. Those in the middle 50% of the total group were called AVERAGE readers. The questionnaires of all AVERAGE readers were discarded, leaving only the MUCH readers and the LITTLE readers for further study. The pupils in these two groups were checked against the teacher estimates and those questionnaires were discarded that did not agree substantially with these estimates. It was found that, except in a very few cases, the only parts of the questionnaire which the writer needed to take into consideration in judging the amount of reading done, were the listings under BOOKS and COMIC BOOKS.

Directions for Teachers to Use with Questionnaire

Survey of Free Reading

To the teacher- Help the children in every way possible to make the most accurate responses on their questionnaire. Read one set of directions at a time and give each pupil an opportunity to finish before going to the next part.

If recent lengthy absence would seem to affect any pupil's answers to any great extent, please indicate that on the questionnaire.

To the pupils- We should like to find out how much reading you do for fun in school and outside of school. As best you can remember, tell about all of the reading that you do that is not in your regular school lessons.

If there isn't enough room in the spaces, you may use the backs of the papers.

1. Books Read

Write down the number of books that you have read completely, since Christmas, under column A. List the names of as many of these books as you can remember. Spell the names the best way you can. If you don't know the whole title, write as much of it as you can remember.

Under column B, write the number of books in which you read half or more, but didn't finish. Give the names of as many of these as you can remember.

Under column C, write the number of books in which you read only a little since Christmas. Give the names of as many as you can remember of these.

2. Comic Books

Under column A, write the number of comic books that you have completely read during the past two weeks. Give the names of these. If you read more than one issue of the same comic book, write the number of issues that you read after the title. If you just looked at the pictures, write the number and the names of the books read under column C.

Under column B, write the number of comic books in which you read half or more, but didn't finish. Give the names of these books. If you just looked at the pictures, write the number and the names under column C.

Under column C, write the number of comic books in which you read very little during the past two weeks. Give the names of these books.

3. Magazines

Under column A, write the number of magazines in which you read once a week or oftener. List the names of as many of these as you can remember. Also tell what parts of these magazines you read. Example- stories, jokes, advertisements.

3. Magazines (continued)

Under column B, write the number of magazines in which you read about once a month. Write the names of these magazines and tell what parts you read.

Under column C, write the number of magazines that you seldom read, or in which you read very little. Write the names of these.

4. Newspapers

Under column A, write the names of any newspapers that you read.

Under column B, tell what parts of the newspapers you read.

Under column C, tell how often you read these parts.

5. Other Reading

If there are other kinds of reading that you do, such as reading in catalogs, tell what types of reading they are, and how often you do this reading.

Questionnaire to be Filled in by Pupils

Survey of Free Reading

Name _____ Boy or Girl _____ Grade _____

School _____ Date _____

Books Read

A	B	C
Completely Read	Half Read	Read a Little

Number _____
List _____

Number _____
List _____

Number _____
List _____

Comic Books

A	B	C
Completely Read	Half Read	Read a Little

Number _____
List _____

Number _____
List _____

Number _____
List _____

Name _____

Magazines

A Read Weekly	B Read Monthly	C Seldom Read
Number List _____	Number List _____	Number List _____

Newspapers

A Names of Newspapers	B Parts Read	C How Often Read?

Other Reading

Type of Reading	How Often Read?

A minimum of eight books (read during a period of two and one-half months) or ten comic books (read during a period of two weeks) was set for the MUCH readers. A maximum of three books or five comic books was set for the LITTLE readers. MUCH readers who fell below the minimums for their group were not used in this study. LITTLE readers who exceeded the maximums set for their group were not used.

The Otis Quick Scoring Test of Mental Ability was used¹ to obtain mental ages on all of the pupils used in the study. The Iowa Silent Reading Tests were used² to get reading scores on all pupils. Because of absences, it was impossible to get Otis and Iowa results on all of the MUCH and LITTLE readers, so a few more were lost. The final count showed 135 MUCH readers and 120 LITTLE readers.

The mean mental ages, chronological ages, and reading grades were computed for both groups. These figures are shown in Chapter IV. Because of the great difference in the mean mental ages of the two groups, comparisons in reading ability could not be made. For a more intensive study of the problem, pupils were selected from both groups

¹ Arthur S. Otis, Otis Quick-Scoring Mental Ability Tests, Beta, Form A. Yonkers-on-Hudson, New York: World Book Company

² H.A. Greene and V.H. Kelley, Iowa Silent Reading Tests, New Edition, Form A (revised). Yonkers-on-Hudson, New York: World Book Company.

A minimum of eight books (read during a period of two and one-half months) or ten comic books (read during a period of two weeks) was set for the MUCH readers. A maximum of three books or five comic books was set for the LITTLE readers. MUCH readers who fell below the minimum for their group were not used in this study. LITTLE readers who exceeded the maximum set for their group were not used.

The Otis Quick Scoring Test of Mental Ability was used to obtain mental ages on all of the pupils used in the study. The Iowa Silent Reading Tests were used to get reading scores on all pupils. Because of absence, it was impossible to get Otis and Iowa results on all of the MUCH and LITTLE readers, so a few more were lost. The final count showed 135 MUCH readers and 180 LITTLE readers.

The mean mental ages, chronological ages, and reading grades were computed for both groups. These figures are shown in Chapter IV. Because of the great difference in the mean mental ages of the two groups, comparisons in reading ability could not be made. For a more intensive study of the problem, pupils were selected from both groups

1. Arthur S. Otis, Otis Quick-Scoring Mental Ability Tests, Bates, Ford & A. Yonkers-on-Hudson, New York: World Book Company.

2. H. A. Greene and V. H. Kelley, Iowa Silent Reading Tests, New Edition, Ford A. (revised), Yonkers-on-Hudson, New York: World Book Company.

who were closely matched in mental age and in chronological age. These pupils were equated on chronological age, mental age, and sex. The extreme range used in matching for chronological age was six months. The extreme in mental age was four months. By keeping within these limits, there were found to be nineteen pairs of girls and twenty-one pairs of boys. The mean chronological age of the forty LITTLE readers was 10.89 years, as compared with 10.88 years of the MUCH readers. The mean mental age of the LITTLE readers was 11.21 years, as compared with 11.23 years of the MUCH readers.

This gave two groups very closely equated on both chronological age and mental age. Comparisons were then made of total reading scores in terms of reading grades. In addition, comparisons were made on scores earned on each part of the reading test.

The Iowa Silent Reading Tests are divided into six subtests. Test 1 has two parts--Part A is a speed test and Part B is a comprehension test on the same passage that is used to test speed. Test 2- Directed Reading is a test of the pupil's ability to answer questions of a rather detailed nature. The answers are found in a reading selection on the same page with the questions. Test 3- Word Meaning is a straight vocabulary test. Test 4- Paragraph Comprehension- contains ten paragraphs. The student is expected to be able to select the central topic of the paragraph, and answer

certain detailed questions that are essential to the meaning. Test 5- Sentence Meaning involves vocabulary understanding, but comprehension of the sentence meaning as a whole is necessary. Test 6 has two parts--Part A measures the ability to arrange words alphabetically and Part B tests the pupil's ability to use a simple index.

Summary. A questionnaire was administered to 549 pupils in grades four, five, and six, to discover the amount of free reading done by them. Of this group, 135 of those who indicated that they read the most, were called the MUCH readers; 120 of those who indicated that they read the least were called the LITTLE readers. The Otis Beta A was used to get mental ages on these pupils and the Iowa Silent Reading Test, Form A (Revised) was used to obtain reading scores. Pupils from these two groups were equated on chronological age, mental age, and sex. Eighty boys and girls were found to be very closely matched in these three categories. Comparisons were made between the two groups in general silent reading ability as well as in each reading skill that is separately tested by the Iowa Test.

CHAPTER IV

ANALYSIS OF DATA

In this chapter comparisons are made first between the 135 MUCH readers and the 120 LITTLE readers. Comparisons are then made between equated groups of 40 MUCH readers and 40 LITTLE readers.

TABLE I

CHRONOLOGICAL AGES, MENTAL AGES AND READING
GRADES OF ALL MUCH AND LITTLE READERS

	NO.	MEAN C.A.	S.D.	DIFF. M
MUCH READERS	135	10.98 years	.99	.49
LITTLE READERS	120	11.47 years	1.17	
	NO.	MEAN M.A.	S.D.	DIFF. M
MUCH READERS	135	12.41 years	2.12	2.36
LITTLE READERS	120	10.05 years	1.75	
	NO.	MEAN R.G.	S.D.	DIFF. M
MUCH READERS	135	7.37	2.49	2.74
LITTLE READERS	120	4.63	1.39	

TABLE I gives the mean chronological ages, the mean mental ages and the mean reading grades of 135 MUCH readers and 120 LITTLE readers. These figures show that in this study the average LITTLE reader is about one-half year older than the average MUCH reader; that the average LITTLE reader is about two and one-third years below the average MUCH reader in mental age; and that the average LITTLE reader is about two and three-fourths years below the average MUCH reader in reading grade.

These figures would indicate that those children who read widely have a much higher mental age, and a much higher intelligence quotient than those children at the same grade levels who do little reading. The MUCH readers are also far superior to the LITTLE readers in silent reading ability.

Because of the great difference in mental age between the two groups, it was thought best to use equated groups for further comparisons. By matching carefully, it was possible to find 21 pairs of boys and 19 pairs of girls that were almost perfectly equated in both chronological and mental ages. These are listed in Tables II and III, on the following pages.

TABLE II
COMPARISON OF MUCH AND LITTLE READERS (BOYS)

PUPIL	GR.	MUCH C.A.	M.A.	R.G.	PUPIL	GR.	LITTLE C.A.	M.A.	R.G.
A	6	11-7	14-6	11.9	a	6	11-7	14-4	8.8
B	6	11-2	14-4	8.3	b	5	11-1	14-4	7.5
C	6	11-3	13-3	7.3	c	6	11-5	13-5	6.3
D	6	12-0	12-8	7.7	d	6	12-2	12-10	6.5
E	6	11-11	12-8	9.4	e	6	11-9	12-10	8.3
F	5	10-11	12-8	9.2	f	6	11-1	13-0	6.4
G	5	10-10	12-0	8.7	g	6	11-1	12-3	7.2
H	6	11-3	11-10	7.2	h	6	11-6	11-8	5.0
I	5	11-1	11-10	7.6	i	5	11-2	11-10	8.0
J	4	9-11	11-6	4.8	j	4	9-7	11-4	5.2
K	4	9-10	11-4	4.5	k	5	10-1	11-2	6.4
L	6	12-0	11-0	6.3	l	5	11-10	10-8	5.3
M	4	9-7	10-8	5.1	m	4	9-5	10-8	4.4
N	4	9-4	10-3	5.8	n	4	9-10	10-1	4.2
O	5	11-0	10-1	4.0	o	4	11-4	9-10	5.1
P	5	10-8	9-8	4.5	p	4	11-0	9-5	4.7
Q	4	9-11	9-7	4.6	q	4	9-10	9-7	2.9
R	4	10-11	9-0	5.0	r	4	10-9	9-0	4.5
S	4	9-8	8-9	5.3	s	4	9-7	9-0	5.2
T	4	9-7	8-2	4.5	t	4	9-5	8-3	3.1
U	5	11-10	7-10	3.6	u	5	11-8	7-9	3.4
MEANS		10-9.3	11-1.5	6.51			10-9.8	11-1.3	5.68

TABLE II

COMPARISON OF HIGH AND LITTLE BRADERS (BOYS)

Height	Weight	High			Little			
		Age	Height	Weight	Age	Height	Weight	
A	5	11-5	13-5	11-5	5	11-7	14-2	8.8
B	5	11-8	14-4	8.8	5	11-1	14-4	7.8
C	5	11-8	13-8	7.8	5	11-8	13-8	8.8
D	5	12-0	12-8	7.7	5	12-2	12-10	6.8
E	5	11-11	13-8	9.4	5	11-9	12-10	8.8
F	5	10-11	12-8	8.8	5	11-1	12-0	6.4
G	5	10-10	12-0	8.7	5	11-1	12-8	7.2
H	5	11-8	12-10	7.8	5	11-0	11-8	6.0
I	5	11-1	11-10	7.6	5	11-2	11-10	8.0
J	4	9-11	11-8	4.8	4	9-7	11-4	3.2
K	4	9-10	11-4	4.8	5	10-1	11-2	6.4
L	5	12-0	11-0	6.3	5	11-10	10-8	8.2
M	4	9-7	10-8	5.1	4	9-8	10-8	4.4
N	4	9-4	10-8	5.8	4	9-10	10-1	4.8
O	5	11-0	10-1	4.0	4	11-4	9-10	3.1
P	5	10-8	9-8	4.8	4	10-8	9-8	4.7
Q	4	9-11	9-7	4.8	5	9-10	9-7	3.8
R	4	10-11	9-0	3.0	4	10-9	9-0	4.8
S	4	9-8	8-9	5.8	4	9-7	9-0	5.2
T	4	9-7	8-8	4.8	4	9-8	8-8	3.1
U	5	11-10	9-10	8.8	5	11-8	7-9	3.4

10-9.8 11-1.8 8.8

10-9.4 11-1.8 6.81

10-9.8 11-1.8 8.8

TABLE III
COMPARISON OF MUCH AND LITTLE READERS (GIRLS)

PUPIL	GR.	MUCH C.A.	M.A.	R.G.	PUPIL	GR.	LITTLE C.A.	M.A.	R.G.
A	6	11-7	15-4	11.9	a	6	11-7	15-6	7.2
B	6	12-2	14-4	11.0	b	6	12-6	14-4	5.3
C	6	11-9	14-4	8.7	c	6	11-8	14-6	7.6
D	6	12-1	13-5	7.3	d	5	12-2	13-8	5.7
E	6	11-3	12-3	9.0	e	6	11-2	12-5	5.5
F	5	10-2	11-2	5.6	f	5	10-1	10-10	4.7
G	6	11-9	11-2	6.5	g	5	11-5	11-0	6.1
H	4	9-5	11-0	6.2	h	4	9-5	11-2	4.0
I	5	10-8	11-0	6.1	i	5	10-4	11-0	6.4
J	5	10-2	10-7	6.9	j	5	10-6	10-3	4.4
K	4	10-0	10-5	4.5	k	5	10-3	10-8	5.2
L	5	11-4	10-5	4.3	l	5	11-0	10-7	5.1
M	5	10-7	10-3	5.5	m	5	10-3	10-0	4.9
N	6	12-1	10-3	7.9	n	6	11-10	10-1	3.0
O	5	10-2	10-2	3.9	o	4	10-2	9-10	5.2
P	4	11-7	10-1	5.1	p	5	11-2	9-10	4.3
Q	4	9-6	10-1	4.7	q	4	9-7	10-1	3.8
R	6	12-10	10-1	6.2	r	6	13-3	10-1	4.8
S	4	10-0	9-0	3.6	s	4	10-3	9-3	5.0
MEANS		11-0	11-4	6.64			10-11.7	11-3.8	5.19

TABLE III

COMPARISON OF HIND AND LITTLE CRABBERS (1912)

HIND CR.	LITTLE CR.	HIND		LITTLE		HIND		LITTLE	
		N.A.	R.G.	N.A.	R.G.	N.A.	R.G.	N.A.	R.G.
A	6	11-7	10-4	11-9	8	11-7	10-5	11-9	7.5
B	6	12-2	10-4	11-0	6	12-4	10-4	12-6	6.8
C	6	11-9	10-4	9.7	6	11-8	10-5	12-6	7.6
D	6	12-1	11-5	11.2	6	12-2	11-8	12-3	8.7
E	6	11-3	10-3	9.0	6	11-3	10-5	12-5	8.5
F	8	10-2	11-2	8.6	8	10-1	10-10	11-10	8.7
G	8	11-9	11-2	9.8	8	11-8	11-0	12-0	8.1
H	4	9-5	11-0	8.2	4	9-8	11-2	11-2	4.0
I	5	10-8	11-0	8.1	5	10-4	11-0	11-0	8.4
J	5	10-2	10-7	8.9	5	10-5	10-3	10-3	4.4
K	4	10-0	10-5	8.2	4	10-2	10-8	10-8	6.2
L	5	11-4	10-5	8.3	5	11-0	10-7	10-7	6.1
M	5	10-7	10-2	8.5	5	10-2	10-0	10-0	4.9
N	6	12-1	10-2	7.9	6	11-10	10-1	10-1	8.0
O	5	10-2	10-2	8.9	4	10-2	9-10	9-10	6.2
P	4	12-7	10-1	8.1	5	11-2	9-10	9-10	4.3
Q	4	9-5	10-1	4.7	4	9-7	10-1	10-1	3.8
R	5	12-10	10-1	6.2	5	12-8	10-1	10-1	4.8
S	4	10-0	9-0	8.6	4	10-2	9-2	9-2	6.0
MEANS		11-0	11-2	8.54		10-11.7	11-2.9	11.19	

TABLE IV
CHRONOLOGICAL AGES, MENTAL AGES, AND READING
GRADES OF EQUATED MUCH AND LITTLE READERS

	NO.	MEAN C.A.	BOYS	MEAN R.G.
			MEAN M.A.	
MUCH	21	10.78	11.13	6.51
LITTLE	21	10.82	11.11	5.68
			<u>GIRLS</u>	
MUCH	19	11.00	11.33	6.64
LITTLE	19	10.98	11.32	5.19
			<u>TOTALS</u>	
MUCH	40	10.88	11.23	6.58
LITTLE	40	10.89	11.21	5.46

Table IV gives the mean mental ages, chronological ages, and reading grades of the boys, girls, and the totals of the MUCH and the LITTLE readers.

Tables VI through IX give the sub-test scores on the Iowa Silent Reading Tests obtained by each pupil in the equated groups.

TABLES H. COOKS, *Methods and Materials of Statistics*.
New York: The MacMillan Company, 1933. Pp. 100, 249.

Table V gives the statistical comparisons of the general silent reading ability of these 80 pupils, as measured by the Iowa Test.

TABLE V
COMPARISONS OF THE GENERAL SILENT READING
ABILITY OF MUCH AND LITTLE READERS

	MEAN R.G.	S.D.	S.D. M	DIFF. M	S.E. Diff.M	C.R. ¹
MUCH	6.58	2.14	.34	1.12	.41	2.73
LITTLE	5.46	1.44	.23			

Table V shows that the MUCH readers are 1.12 grades higher in reading than the LITTLE readers. The chances are 99.7 in 100 that these figures are significant.

This means that if other studies were carried on under similar conditions there would be 99 chances in 100 that the MUCH readers would always score higher in silent reading than the LITTLE readers.

Tables VI through IX give the sub-test scores on the Iowa Silent Reading Tests obtained by each pupil in the equated groups.

¹ Dennis H. Cooke, Minimum Essentials of Statistics. New York: The MacMillan Company, 1936. Pp.100, 249.

TABLE VI

TESTING RESULTS OF LITTLE BEARERS (BOYS)

	1.	2.	3.	4.	5.	6.	7.	8.
	1. WATER COMP.	2. R.D.	3. W. MATH	4. I. COM.	5. SEXT.	6. ALPH. INDEX	7.	8.
a	12.75	11.4	11.85	11.85	9.5	8.8	7.0	
b	6.5	8.1	5.4	7.5	7.2	12.4	7.5	
c	3.5	7.9	5.7	6.8	5.9	12.4	6.5	
d	6.5	7.9	6.8	7.25	5.1	8.8	6.5	
e	6.5	8.7	8.5	7.2	6.8	12.4	8.0	
f	3.1	6.5	7.1	6.8	5.5	6.5	5.5	
g	4.5	8.7	6.8	7.5	7.2	8.5	6.0	
h	8.8	4.8	5.5	7.9	4.1	4.7	4.0	
i	12.2	8.0	7.7	8.5	8.4	7.5	7.0	
j	10.5	4.9	4.0	4.5	5.1	-3.1	6.0	
k	4.1	5.8	4.7	6.2	7.8	7.0	5.0	
l	8.5	4.9	6.8	5.1	3.4	5.1	6.5	
m	2.8	8.0	5.5	4.5	4.1	4.5	3.5	
n	-1.8	3.8	4.0	3.3	3.5	4.5	4.7	
o	7.4	4.9	5.2	4.2	6.7	-1.9	6.0	
p	8.1	4.5	5.3	3.8	5.1	5.8	4.7	
q	-1.2	-2.0	4.0	5.5	1.9	6.3	-1.9	
r	4.1	4.3	4.4	3.5	3.7	5.1	3.4	
s	4.1	4.3	4.5	3.3	5.1	7.0	4.7	
t	-1.8	-2.0	4.4	4.7	5.1	-5.1	3.4	
u	8.8	-2.0	4.0	3.8	1.9	-5.1	3.4	

- scored lower than lowest Test norms
 * scored higher than highest Test norms

TABLE VII
SUBTEST SCORES OF LITTLE READERS (GIRLS)

PUPIL	1. RATE	1. COMP.	2. D.RD.	3. W.MEAN	4. P.COMP.	5. SENT.	6A ALPH.	6B INDEX
a	7.4	11.1#	7.4	7.0	11.2	5.9	5.4	6.0
b	4.1	2.5	5.0	5.5	5.1	5.9	7.0	6.0
c	10.0	7.1	6.8	7.9	6.1	6.5	12.4#	9.1
d	2.1	6.0	6.3	6.1	5.1	6.2	5.4	4.7
e	4.1	5.4	8.4	6.4	4.1	5.3	7.5	5.6
f	2.8	4.3	7.1	5.9	3.1	5.3	3.1	4.7
g	5.6	4.9	6.8	6.4	4.1	5.9	7.0	5.6
h	-1.8	-2.0	5.7	4.5	4.1	2.9	-3.1	4.7
i	12.7#	6.0	6.8	5.3	6.7	9.5	5.4	5.1
j	-1.8	3.8	4.4	4.2	2.6	4.7	5.1	5.1
k	3.5	4.9	6.0	6.1	5.1	5.1	11.0	4.7
l	3.1	3.1	5.0	5.7	4.6	7.5	5.1	5.6
m	3.5	6.0	5.2	4.5	4.6	3.2	4.7	7.0
n	-1.8	-2.0	2.5	2.9	1.9	2.9	-3.1	4.7
o	4.1	7.9	5.5	3.5	4.6	2.4	5.6	6.5
p	3.5	3.1	3.6	2.9	4.1	2.7	3.8	4.7
q	2.8	2.5	4.4	4.5	3.1	2.4	4.7	2.4
r	4.6	4.9	2.5	4.5	3.7	-1.9	5.9	5.6
s	7.0	3.8	4.4	5.1	6.1	4.7	5.9	5.1

scored higher than highest test norms

- scored lower than lowest test norms

TABLE VII

(SUNSET SCORES OF LISTED SPECIES (1913))

	1.	2.	3.	4.	5.	6.	7.	8.
	1.	2.	3.	4.	5.	6.	7.	8.
a	7.4	11.1	7.4	7.0	11.2	8.3	8.4	8.0
b	4.1	3.3	3.0	3.3	3.1	3.9	7.0	3.0
c	10.0	7.1	3.3	7.0	3.1	3.3	12.4	3.1
d	3.1	3.0	3.3	3.1	3.1	3.3	3.4	4.7
e	4.1	3.4	3.4	3.3	4.1	3.3	7.3	3.0
f	3.3	3.3	7.1	3.3	3.1	3.3	3.1	4.7
g	3.3	3.3	3.3	3.4	4.1	3.0	7.0	3.3
h	-1.3	-2.0	3.7	4.3	4.1	3.3	-3.1	4.7
i	12.7	3.0	3.3	3.3	3.7	3.3	3.4	3.1
j	-1.3	3.3	3.4	3.3	3.3	4.7	3.1	3.1
k	3.3	4.3	3.0	3.1	3.3	3.1	11.3	4.7
l	3.1	3.1	3.0	3.7	4.3	7.3	3.1	3.3
m	3.3	3.3	3.3	4.3	4.3	3.3	4.7	7.0
n	-1.3	-2.0	3.3	3.3	1.3	3.3	-3.1	4.7
o	4.1	7.3	3.3	3.3	3.3	3.3	3.3	3.3
p	3.3	3.1	3.3	3.3	4.1	3.7	3.3	4.7
q	3.3	3.3	4.4	4.3	3.1	3.4	4.7	3.4
r	3.3	4.3	3.3	4.3	3.7	-1.3	3.3	3.3
s	7.0	3.3	4.4	3.1	3.1	4.7	3.3	3.1

1 scored higher than highest test normal

- scored lower than lowest test normal

TABLE VIII
SUBTEST SCORES OF MUCH READERS (BOYS)

PUPIL	1. RATE	1. COMP.	2. D.RD.	3. W.MEAN	4. P.COMP.	5. SENT.	6A ALPH.	6B INDEX
A	12.7+	11.1+	11.8+	9.7	11.2+	9.5	11.0	10.0
B	9.7	11.1	8.4	7.0	11.2+	6.2	8.8	11.3+
C	11.1	6.5	6.8	7.0	8.6	10.3+	5.9	7.5
D	12.7+	5.4	8.4	6.2	7.3	6.2	9.8	9.1
E	11.1	7.1	10.3	8.7	11.2+	10.3+	5.6	7.0
F	6.6	11.1+	10.3	9.3	9.4	10.3+	5.1	3.3
G	12.0	5.4	7.7	7.6	11.2	7.2	11.0	9.1
H	8.1	11.1+	6.8	8.5	7.9	5.3	5.4	5.1
I	12.7+	6.0	8.4	6.6	11.2	4.4	7.0	8.0
J	7.0	4.3	6.0	4.9	6.7	3.7	-3.1	2.4
K	3.4	4.9	4.4	4.9	4.1	3.2	4.3	3.3
L	11.4	8.7	4.4	7.0	5.6	6.5	-3.1	6.0
M	3.8	4.9	5.9	4.7	5.6	5.6	3.1	-1.9
N	9.2	6.5	6.6	6.1	5.6	5.3	5.6	5.1
O	2.8	3.1	1.8	3.8	6.1	4.7	-3.1	5.1
P	10.5	3.8	5.5	5.9	1.9	2.4	-3.1	4.7
Q	12.7+	3.1	3.7	2.9	5.1	6.8	3.1	5.1
R	2.1	6.5	5.2	5.9	4.1	3.7	7.5	5.1
S	6.6	4.9	5.2	4.9	5.6	6.8	5.1	4.7
T	3.5	4.3	5.0	4.5	4.1	2.4	8.8	4.0
U	-1.8	2.5	3.6	3.9	3.1	2.9	3.8	4.0

+ scored higher than highest test norms

- scored lower than lowest test norms

TABLE IX
SUBTEST SCORES OF MUCH READERS (GIRLS)

PUPIL	1. RATE	1. COMP.	2. D.RD.	3. W.MEAN	4. P.COMP.	5. SENT.	6A ALPH.	6B INDEX
A	7.4	11.1#	11.8#	12.7	11.2#	10.3	9.8	11.3#
B	12.7	11.1#	9.1	9.1	11.2#	7.9	12.4#	11.3
C	9.2	9.8	8.4	9.3	9.4	7.2	11.0	7.0
D	7.9	5.4	8.4	7.0	11.2	8.4	7.0	7.0
E	9.7	9.8	11.8#	6.6	11.2	5.1	5.9	10.0
F	12.7#	3.8	2.5	5.7	5.6	6.2	5.9	4.7
G	11.4	4.3	6.3	6.6	7.3	5.1	8.1	6.5
H	12.7	6.0	6.3	5.5	7.3	3.2	5.1	7.1
I	8.1	6.0	4.6	5.7	11.2	4.4	7.0	6.0
J	12.7#	11.1#	7.1	5.9	6.7	5.9	9.8	6.0
K	4.1	3.8	6.6	4.7	3.7	4.1	5.9	4.0
L	3.5	3.8	4.0	4.2	4.6	4.1	3.1	4.0
M	7.0	5.4	4.4	5.3	3.7	5.3	5.4	6.0
N	7.9	5.4	6.6	7.9	8.6	6.3	8.8	8.5
O	2.4	2.0	5.2	3.5	3.7	3.2	4.3	5.1
P	3.5	4.3	5.5	6.4	4.1	5.3	5.9	4.0
Q	6.6	4.3	4.0	4.5	4.1	6.2	7.0	4.7
R	3.5	6.5	7.1	6.6	5.6	6.5	5.1	3.3
S	3.5	2.0	5.0	3.5	3.1	-1.9	3.8	3.3

scored higher than highest test norms

- scored lower than lowest test norm

TABLE IX

SUBJECT SCORES OF MATHS (STUDENTS)

	1.	2.	3.	4.	5.	6.	7.	8.	9.
A	11.15	11.84	12.7	11.24	10.8	9.8	11.34		
B	11.15	9.7	9.7	11.24	9.8	12.44	11.8		
C	9.8	9.4	9.8	9.4	7.2	11.0	7.0		
D	11.4	8.4	7.0	11.8	6.4	7.0	7.0		
E	9.8	11.24	6.8	11.2	8.7	6.2	10.8		
F	12.74	8.8	8.8	8.8	6.8	6.8	4.7		
G	11.4	8.8	6.8	7.8	6.7	8.7	6.8		
H	12.7	6.8	6.8	7.8	3.2	6.7	7.7		
I	6.7	4.8	6.7	11.8	4.4	7.0	6.0		
J	12.74	7.7	6.8	6.7	6.8	6.8	6.0		
K	6.7	6.8	4.7	5.7	4.7	6.8	4.0		
L	8.8	4.0	4.2	4.8	4.7	3.7	4.0		
M	7.0	4.4	6.8	3.7	6.8	6.4	6.0		
N	7.2	6.4	7.8	6.8	6.8	6.8	6.8		
O	6.4	6.8	3.8	3.7	3.2	4.8	4.7		
P	3.8	4.8	6.8	4.7	6.8	6.8	4.0		
Q	6.8	4.8	4.8	4.7	6.8	7.0	4.7		
R	3.8	6.8	6.8	6.8	6.8	6.7	3.8		
S	3.8	6.0	3.8	3.7	-1.8	3.8	3.8		

* scored higher than highest test norms

- scored lower than lowest test norms

TABLE X

COMPARISONS IN THE RATE OF READING BETWEEN
THE MUCH AND LITTLE READERS

	MEAN	S.D.	S.D. M	DIFF. M	S.E. DIFF.M	C.R.
MUCH	8.04	3.67	.58	2.96	.76	3.89
LITTLE	5.08	3.12	.49			

Table X shows that the MUCH readers are 2.96 grades higher in reading rate than the LITTLE readers. These figures are statistically significant.

TABLE XI

COMPREHENSION IN READING WHEN SPEED IS A FACTOR

	MEAN	S.D.	S.D. M	DIFF. M	S.E. DIFF.M	C.R.
MUCH	6.26	2.86	.45	1.27	.56	2.27
LITTLE	4.99	2.07	.33			

Table XI shows that the MUCH readers are 1.27 grades higher in comprehension than the LITTLE readers. This comprehension test was given on the same passage that was tested for speed, so speed is an important factor in this test. The chances are 98 in 100 that these figures are statistically significant.

TABLE X
COMPARISONS IN THE RATE OF READING BETWEEN
THE HIGH AND LITTLE READERS

	MEAN	S.D.	S.D.	DIF.	S.E.	O.E.
				M	DIF.	
HIGH	8.04	3.67	.88			
LITTLE	8.08	3.12	.49	2.96	.76	3.09

Table X shows that the HIGH readers are 2.96 grades higher in reading rate than the LITTLE readers. These figures are statistically significant.

TABLE XI
COMPREHENSION IN READING WHEN SPEED IS A FACTOR

	MEAN	S.D.	S.D.	DIF.	S.E.	O.E.
				M	DIF.	
HIGH	8.26	2.86	.48			
LITTLE	4.90	2.07	.38	1.37	.66	2.27

Table XI shows that the HIGH readers are 3.37 grades higher in comprehension than the LITTLE readers. This comprehension test was given on the same passage that was tested for speed, so speed is an important factor in this test. The chances are 98 in 100 that these figures are statistically significant.

TABLE XII
COMPARISONS OF TEST SCORES IN DIRECTED READING

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.56	2.38	.38	.78	.47	1.66
LITTLE	5.78	1.80	.27			

Table XII shows that the MUCH readers are .78 grades higher in the directed reading test than the LITTLE readers. In this test pupils had to answer questions of a detailed nature. The answers were to be found in a reading selection on the same page with the questions. The chances are 94 in 100 that these figures are significant.

TABLE XIII
COMPARISONS OF TEST SCORES IN WORD MEANING

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.33	1.95	.31	.74	.40	1.85
LITTLE	5.59	1.61	.25			

Table XIII shows that the MUCH readers are .74 grades higher than the LITTLE readers in the word meaning test. The chances are 96 in 100 that these figures are significant.

TABLE XII
COMPARISONS OF TEST SCORES IN DIRECTED READING

MEAN	S.D.	S.D. M	DIF. M	S.E. DIF.M	C.P.
WUCH	6.56	2.38	.38		
LITTLE	5.78	1.30	.27		
			.78	.47	1.66

Table XII shows that the WUCH readers are .78 grades higher in the directed reading test than the LITTLE readers. In this test pupils had to answer questions of a detailed nature. The answers were to be found in a reading selection on the same page with the questions. The chances are 94 in 100 that these figures are significant.

TABLE XIII
COMPARISONS OF TEST SCORES IN WORD MEANING

MEAN	S.D.	S.D. M	DIF. M	S.E. DIF.M	C.P.
WUCH	6.33	1.95	.21		
LITTLE	5.59	1.61	.25		
			.74	.40	1.88

Table XIII shows that the WUCH readers are .74 grades higher than the LITTLE readers in the word meaning test. The chances are 95 in 100 that these figures are significant.

TABLE XIV
COMPARISON OF TEST SCORES IN PARAGRAPH COMPREHENSION

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	7.08	2.92	.46	1.48	.59	2.51
LITTLE	5.60	2.33	.37			

Table XIV shows that the MUCH readers are 1.48 grades higher than the LITTLE readers in paragraph comprehension. The chances are 99 in 100 that these figures are significant.

TABLE XV
COMPARISON OF TEST SCORES IN SENTENCE MEANING

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	5.76	2.26	.36	.88	.50	1.76
LITTLE	4.88	2.14	.34			

Table XV shows that the MUCH readers are .88 grades higher than the LITTLE readers in the sentence meaning test. Vocabulary plays an important part in this test. The chances are 96 in 100 that these figures are significant.

TABLE XIV

COMPARISON OF TEST SCORES IN PARAGRAPH COMPREHENSION

MEAN	S.D.	S.D. M	DIF. M	S.E. DIF. M	C.E.
MUCH	7.08	2.92	1.48	.59	2.51
LITTLE	6.60	2.33	.87		

Table XIV shows that the MUCH readers are 1.48 grades higher than the LITTLE readers in paragraph comprehension. The chances are 95 in 100 that these figures are significant.

TABLE XV

COMPARISON OF TEST SCORES IN SENTENCE MEANING

MEAN	S.D.	S.D. M	DIF. M	S.E. DIF. M	C.E.
MUCH	6.76	2.26	.36		
LITTLE	6.68	2.12	.88	.50	1.75

Table XV shows that the MUCH readers are .88 grades higher than the LITTLE readers in the sentence meaning test. Vocabulary plays an important part in this test. The chances are 95 in 100 that these figures are significant.

TABLE XVI
COMPARISONS OF TEST SCORES IN ALPHABETIZING

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.43	2.58	.41			
LITTLE	6.09	2.69	.50	.34	.65	.52

Table XVI shows that the MUCH readers are .34 grades higher than the LITTLE readers in alphabetizing. The chances are 69 in 100 that these figures are significant.

TABLE XVII
COMPARISONS OF TEST SCORES IN USE OF AN INDEX

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.19	2.27	.36			
LITTLE	5.50	1.75	.28	.69	.46	1.50

Table XVII shows that the MUCH readers are .69 grades higher than the LITTLE readers in use of an index. The chances are 93 in 100 that these figures are significant.

Tables XVIII and XIX give the comparisons in test scores in average reading between the MUCH and LITTLE girl readers and the MUCH and LITTLE boy readers.

TABLE XVI
COMPARISONS OF TEST SCORES IN ALPHABETIZING

MEAN	S.D.	S.D.	DIFF.	S.E.	C.E.
			M	M	
MUCH	6.43	2.28	.41	.88	.88
LITTLE	6.09	2.62	.50	.88	.88

Table XVI shows that the MUCH readers are .34 grades higher than the LITTLE readers in alphabetizing. The chances are 62 in 100 that these figures are significant.

TABLE XVII
COMPARISONS OF TEST SCORES IN USE OF AN INDEX

MEAN	S.D.	S.D.	DIFF.	S.E.	C.E.
			M	M	
MUCH	6.19	2.27	.36	.48	1.50
LITTLE	5.80	1.75	.38	.48	1.50

Table XVII shows that the MUCH readers are .39 grades higher than the LITTLE readers in use of an index. The chances are 92 in 100 that these figures are significant. Tables XVII and XIX give the comparisons in test scores in average reading between the MUCH and LITTLE girl readers and the MUCH and LITTLE boy readers.

TABLE XVIII

COMPARISONS OF TEST SCORES IN AVERAGE READING
BETWEEN THE MUCH AND LITTLE GIRL READERS

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.64	2.22	.51	1.45	.56	2.59
LITTLE	5.19	1.06	.24			

Table XVIII shows that the MUCH readers among the girls are 1.45 grades higher than the LITTLE readers among the girls, in average reading. The chances are 99 in 100 that these figures are significant.

TABLE XIX

COMPARISONS OF TEST SCORES IN AVERAGE READING
BETWEEN THE MUCH AND LITTLE BOY READERS

	MEAN	S.D.	S.D. M	DIFF M	S.E. DIFF.M	C.R.
MUCH	6.51	2.05	.45	.83	.58	1.43
LITTLE	5.68	1.66	.36			

Table XIX shows that the MUCH readers among the boys are .83 grades higher than the LITTLE readers among the boys, in average reading. The chances are 92 in 100 that these figures are significant.

TABLE XVII

COMPARISONS OF TEST SCORES IN AVERAGE READING
BETWEEN THE MUCH AND LITTLE GIRL READERS

MEAN	S.D.	S.D.	DIV.	S.E.	C.R.
			M	DIV. M	
MUCH 6.66	2.22	30	1.45	26	2.89
LITTLE 6.19	1.66	24			

Table XVII shows that the MUCH readers among the girls are 1.45 grades higher than the LITTLE readers among the girls, in average reading. The chances are 92 in 100 that these figures are significant.

TABLE XIX

COMPARISONS OF TEST SCORES IN AVERAGE READING
BETWEEN THE MUCH AND LITTLE BOY READERS

MEAN	S.D.	S.D.	DIV.	S.E.	C.R.
			M	DIV. M	
MUCH 6.51	2.06	46	98	53	1.45
LITTLE 6.68	1.86	36			

Table XIX shows that the MUCH readers among the boys are .93 grades higher than the LITTLE readers among the boys, in average reading. The chances are 92 in 100 that these figures are significant.

COMMENTS AND SUMMARY

It should be pointed out that both tests used were, in a sense, reading tests. The Otis Test, while it is used to find mental ability, is composed almost entirely of reading material. Had a non-reading mental test been used, the chances are that different pupils would have been paired, and greater differences been found in the reading test scores.

Another factor that needs to be considered is that on some of the sub-tests in the reading test, some MUCH readers scored higher than the highest test norms given, while some of the LITTLE readers scored lower than the lowest test norms given. This kept the two groups closer together in mean scores than they actually were.

Tests which showed low critical ratios between the MUCH and LITTLE readers were: Directed Reading, Word Meaning, Sentence Meaning, Alphabetizing and Use of an Index. Most teachers would agree that alphabetizing and use of an index involve skills that need to be taught. The reading of a great number of books alone, would probably have little effect on the average child's ability to do either one of these.

A close study of the tests of Directed Reading, Word Meaning, and Sentence Meaning in the Iowa Test will show that all three involve the discriminatory use and the

CHAPTER V

SUMMARY, AND SUGGESTIONS FOR FURTHER RESEARCH

Summary. This study was carried on to find if those children in grades four, five, and six, who do a great deal of free reading, are better silent readers than those who do little reading, and also to find how these two groups compare with each other in speed, comprehension, and vocabulary in silent reading.

On the basis of the information disclosed in this study, those children in the middle grades who read extensively are better readers than those who do little reading on their own. Between the MUCH and LITTLE readers who were equated on sex, chronological age and mental age, there was a difference of 1.12 grades in the mean reading grades.

The MUCH readers were far superior, in speed of reading, to the LITTLE readers in the equated groups. The difference in the mean scores was 2.96 grades.

The MUCH readers were superior in paragraph comprehension- (1) when speed was an important factor, and (2) when speed was not an important factor. The difference in the mean scores on (1) was 1.27 grades, and on (2) was 1.48 grades.

In the tests which involved the discriminatory use of words, namely, sentence meaning, directed reading, and the word meaning test itself, the MUCH readers were also superior to the LITTLE readers, but the differences were not statistically significant. This finding seems to substantiate other research findings in relation to learning vocabulary. Extensive reading alone should not be relied upon to build vocabulary. Basic vocabulary must be taught.

This study does not prove that much reading makes better readers. It proves that MUCH readers are better readers, but they may have been better readers to start with, and read extensively because they are better readers. It is probable that the two work together-- good readers read a great deal on their own, and this reading helps them to become even better readers.

Teachers should encourage pupils to do all the free reading possible, and they should guide the pupils in the selection of books, when that is necessary. By doing this they will probably be using one of the best methods possible to increase reading speed and improve paragraph comprehension.

Suggestions for Further Research

1. Carry on a study with about twice the number of children used in this study. Equate pupils on chronological age, mental age, sex, and reading grade. Then try to discover

in what reading skills the MUCH readers surpass the LITTLE readers.

2. Carry on a study similar to the one described in this study, followed by another in six months with the same subjects, to find if the MUCH readers continue to gain on the LITTLE readers.

3. Attempt to find, through some similar study, if those who read extensively in comic books only, have the same advantage over LITTLE readers as those who read extensively in other than comic books.

BIBLIOGRAPHY

- Barth, Robert A., Techniques of Reading Instruction. New York: American Book Company, 1944.
- Boyd, William G., A Study of Library Reading in the Primary Grades. Teachers College Contributions to Education, No. 276. New York: Teachers College, Columbia University, 1938.
- Buswell, Ray T., How Adults Read. Supplementary Monographs. Monographs, No. 40. Chicago: University of Chicago Press, 1937.
- Bryant, David S., "An Analysis of Reading Attainment in Free Reading and Formal Reading Programs." Unpublished Master's Thesis, Louisiana State University, 1938.
- Casey, Helen, Psychological Methods for Increasing the Speed of Reading. Teachers College Contributions to Education, No. 275. New York: Teachers College, Columbia University, 1937.
- Clough, Vera S., "An Analysis of Mental Imagery in Children's Silent Reading." Unpublished Master's Thesis, School of Education, Boston University, 1945.
- Cook, Francis H., Methods of Reading Instruction. New York: The McGraw-Hill Company, 1938.
- Coryell, Henry G., An Evaluation of Extensive and Intensive Teaching of Literature. Teachers College Contributions to Education, No. 274. New York: Teachers College, Columbia University, 1937.
- Dickerson, Vera E., "Free Reading in the Teaching of English Literature." Unpublished Master's Thesis, University of Southern California, Los Angeles, 1938.
- Harrell, Donald D., Improvement of Basic Reading Abilities. New York: David McKay Company, 1944.
- Harrell, Donald D., and Helen E. Sullivan, "Vocabulary Instruction in the Intermediate Grades," The Elementary English Review, 13:122-126 and 127-130, April-May, 1936.

BIBLIOGRAPHY

- Betts, Emmett A., Foundations of Reading Instruction. New York: American Book Company, 1946.
- Boney, DeWitt C., A Study of Library Reading in the Primary Grades. Teachers College Contributions to Education, No. 578. New York: Teachers College, Columbia University, 1933.
- Buswell, Guy T., How Adults Read. Supplementary Educational Monographs, No. 45. Chicago: University of Chicago Press, 1937.
- Byrnside, David S., "A Comparative Study of Reading Attainment in Free Reading and Formal Reading Programs," unpublished Master's Thesis, Louisiana State University, 1938.
- Cason, Eloise, Mechanical Methods for Increasing the Speed of Reading. Teachers College Contributions to Education, No. 878. New York: Teachers College, Columbia University, 1943.
- Clough, Vida S., "An Analysis of Mental Imagery in Children's Silent Reading," unpublished Master's Thesis, School of Education, Boston University, 1943.
- Cooke, Dennis H., Minimum Essentials of Statistics. New York: The MacMillan Company, 1936.
- Coryell, Nancy G., An Evaluation of Extensive and Intensive Teaching of Literature. Teachers College Contributions to Education, No. 275. New York: Teachers College, Columbia University, 1927.
- Dickerson, Visa M., "Free Reading in the Teaching of English Literature," unpublished Master's Thesis, University of Southern California, Los Angeles, 1932.
- Durrell, Donald D., Improvement of Basic Reading Abilities. New York: World Book Company, 1940.
- Durrell, Donald D., and Helen B. Sullivan, "Vocabulary Instruction in the Intermediate Grades," The Elementary English Review, 15:138-145 and 185-198, April-May, 1938.

- Elivian, Jeannette, "Word Perception and Word Meaning in Silent Reading in the Intermediate Grades," unpublished Master's Thesis, School of Education, Boston University, 1938.
- Field, Helen, Extensive Individual Reading Versus Class Reading. Teachers College Contributions to Education, No.394. New York: Teachers College, Columbia University, 1930.
- Good, Carter V., "An Experimental Study of the Merits of Extensive and Intensive Reading in the Social Studies," School Review, 33:755-770, December, 1925.
- Goodykoontz, Bess, "The Place of Reading in the Curriculum," Thirty-Sixth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1937.
- Gray, William S., The Appraisal of Current Practices in Reading, Supplementary Educational Monographs, No. 61. Chicago: University of Chicago Press, 1945.
- Gray, William S., and Eleanor Holmes, The Development of Meaning Vocabularies in Reading, University of Chicago Monographs, No.6. Chicago: University of Chicago Press, 1938.
- Harajian, Eleanor, "The Contributions of a Free Reading Program to the Student's Taste in Reading, Vocabulary, and General Information," unpublished Master's Thesis, University of Southern California, Los Angeles, 1937.
- Heller, Freida M., "Free Reading in the Junior High School," Educational Research Bulletin, 19:217-22 and 243-44, April 10, 1940.
- McKee, Paul, "Certain Matters of Importance in the Teaching of Reading," The Elementary English Journal, 14:115-18, April, 1937.
- Moon, George R., "An Experiment Made by a History Teacher," School Review, 35:208-16, March, 1927.
- O'Brien, Ida, "A Comparison of the Use of Intensive Training and of Wide Reading in the Improvement of Reading," Educational Method, 10:346-49, October, 1930.

Report of the National Committee on Reading, Twenty-Fourth Yearbook of the National Society for the Study of Education, 1925.

Rice, R.S., "Extensive Reading Versus Intensive Textbook Study as a Means of Acquiring Knowledge of Scientific Facts and Principles," The Journal of Experimental Education, 4:376-402, June, 1936.

Sachs, H. J., "The Reading Method of Acquiring Vocabulary," Journal of Educational Research, 36:357-364, February, 1943.

Schooner, Ruth C., "The Case for Voluminous Reading," The English Journal, 27:114-118, February, 1938.

Simpson, Ray G., "Does the Amount of Free Reading Influence the Student's Control of His Eye Movements in Reading Ordinary Printed Matter?" Journal of Educational Psychology, 34:313-15, May, 1943.

Thorndike, Edward L., "Improving the Ability to Read," Teachers College Record, 36, 1-19, October, 1934.

Williams, Ralph R., "Extensive Reading Versus Intensive Study of Literature," The School Review, 37:666-78, November, 1929.

Witty, Paul, The Appraisal of Current Practices in Reading. Supplementary Educational Monographs, No.61. Chicago: University of Chicago Press, 1945.

Witty, Paul, Ann Croomer, and Dilla McBean, "Children's Choices of Favorite Books; A Study Conducted in Ten Elementary Schools," The Journal of Educational Psychology, 37:226-78, May, 1946.

Zirbes, Laura, Practice Exercises and Checks on Silent Reading in the Primary Grades. New York: Bureau of Publications, Teachers College, Columbia University, 1925.

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